UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/767,410	01/29/2004	Timothy John Millet	2120-02700	2867

23505 7590 02/26/2008

CONLEY ROSE, P.C.
David A. Rose
P. O. BOX 3267
HOUSTON, TX 77253-3267

EXAMINER	
MARCELO, MELVIN C	

ART UNIT	PAPER NUMBER
2616	

MAIL DATE	DELIVERY MODE
02/26/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/767,410	MILLET ET AL.	
	Examiner	Art Unit	
	Melvin Marcelo	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 February 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *11-40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *11-13,22-25,31-33,38 and 40* is/are rejected.

7)☒ Claim(s) *14-21,26-30,34-37 and 39* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 January 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Allowable Subject Matter

1. Prosecution on the merits of this application is reopened on claims 11-13, 22-25, 31-33, 38 and 40 considered unpatentable for the reasons indicated below: newly discovered reference to Cometto et al. (US 2005/0169188 A1).

2. Applicant is advised that the Notice of Allowance mailed is vacated. If the issue fee has already been paid, applicant may request a refund or request that the fee be credited to a deposit account. However, applicant may wait until the application is either found allowable or held abandoned. If allowed, upon receipt of a new Notice of Allowance, applicant may request that the previously submitted issue fee be applied. If abandoned, applicant may request refund or credit to a specified Deposit Account.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 11-13, 22-25, 31-33, 38 and 40 are rejected under 35 U.S.C. 102(e) as being anticipated by Cometto et al. (US 2005/0169188 A1).

Claim 11 is directed to a Fibre Channel (FC) switch in which an augmented FC frame is forwarded to an output port from an input port via a switch backplane as determined by a control module. Fig. 8 of Cometto illustrates a FC switch having all the claimed components, e.g. FC

ports 843-847 for port modules and outgoing ports, backplane 815 for data storage module, and active supervisor 811 for control module which supervises the transfer of FC frames from inputs to a correspondent output. This feature is well-known operation in a standard FC switch. See detailed description of Fig. 8 on page 8, paragraph [0053-0054]. It is noted that claim 11 requires the FC frame must be augmented, which is structurally different from a standard FC frame. According to the instant application specification, the augmentation of an FC frame is to modify the FC frame by adding a supplemental header to the FC frame (see 602 of Fig. 6). It's also noted that claim 11 does not require any specific structure of the augmented frame. Thus, the limitation must be given its broadest reasonable interpretation. In this case, the augmented FC frame is simple a type of a FC frame whose standard structure is modified. Fig. 2 of Cometto happens to show just that type, an FC frame being modified with an EISL header 203 added to the frame. This modified frame is called RDL frame. Paragraphs [0040 - 0042] of Cometto describes the use of the FC switch (Fig. 8) to send the RDL frame (augmented FC frame) to a selected output from an input via the switch backplane using mechanisms (control module) such as a forwarding table (see lines 11-16). Therefore, it is believed that Cometto reference discloses the invention as defined in claim 11.

Cometto uses the EISL header (paragraph 0033) and incorporates the teaching of Edsall et al. (US 2003/0118053 A1) for the specifics of the EISL header (paragraph 0001).

With respect to the claims below, references to the prior art appear in parenthesis.

Claims

11. A switching circuit **(Cometto's switching circuit in Figure 8)** *that comprises:*

a port module having two or more ports **(Line Cards 803-807 with FC Ports can be broadly interpreted as a port module in terms of organization)**;

a data storage module configured to receive augmented FC frames **(FC frames augmented with EISL Header 203 in Figure 2)** *from the port module* **(Backplane 815 can be broadly interpreted as a data storage module that receives augmented FC frames from the Line Cards, wherein a data storing function is not positively recited in the claim)**; *and*

a control module configured to determine outgoing ports for augmented FC frames entering the data storage module **(Active Supervisor 811 can be broadly interpreted as a control module for determining the outgoing ports for the augmented FC frames in the Backplane 815)**,

wherein the data storage module forwards augmented FC frames to corresponding outgoing ports in the port module as determined by the control module **(Backplane 815 is the data storage module that forwards augmented FC frames to corresponding outgoing ports in the Line Cards)**.

12. The switching circuit of claim 11, wherein each augmented FC frame includes a supplementary header having a destination tag field for indicating a target fabric **(Cometto teaches the use of the EISL header (paragraph 0033) and incorporates Edsall et al. (US 2003/0118053 A1) for the teaching of the EISL header (paragraph 0001). Edsall teaches that the EISL header (Figure 4) includes VSAN ID which can be broadly interpreted as a destination tag field for indicating a target fabric such as the associated VSAN (paragraph 0036))** .

13. The switching circuit of claim 12, wherein the control module is configured to determine routing information for the augmented FC frames in multiple ways **(The multiple ways are the EISL Header with and without the Remote Domain Loopback Indicator 205 taught by Cometto)**, *and wherein one of the ways is a determination based on the destination tag field*

(EISL Header includes the Label stack 416 taught by Edsall for MPLS routing (paragraph 0062)).

22. *A network* **(Cometto's Figure 1 showing the FC Switches connected by communications path)** *that comprises:*

a first switching circuit having two or more ports **(FC Switch in Figure 8 with the plurality of FC Ports 843-847)**, *at least one of which is configured to transmit and receive augmented FC frames* **(FC frames augmented with EISL Header 203 in Figure 2)**;

a second switching circuit having two or more ports, at least one of which is configured to transmit and receive augmented FC frames **(Fibre Channel Switch 101 and Fibre Channel Switch 111 in Figure 1 are the first and second switching circuits)**; *and*

a communications path to transport augmented FC frames between said at least one port of the first and second switching circuit **(FC frame transported in the network of Figure 1 includes the EISL Header 203 (Figure 2))**,

wherein the augmented FC frames transported from the first switching circuit to the second switching circuit each include a supplementary header having routing information determined by the first switching circuit **(EISL Header includes MPLS Label stack for routing as taught by Edsall in paragraph 0062)**, *and*

wherein the second switching circuit routes the augmented FC frame based on the routing information in the supplementary header **(The receiving switch processes the MPLS label stack as taught by Edsall in paragraph 0062)**.

23. The network of claim 22, wherein the communications path is a single link **(The communications path in Cometto's Figure 1 appears as a single link between the FC Switches)**.

24. The network of claim 22, wherein the communications path includes multiple links **(The FC Switch in Figure 8 includes multiple FC Ports 843-847 for providing multiple links between FC Switches)** *and at least one intermediate switching circuit* **(The network in Figure 1 includes at least one intermediate FC Switch between Switches that are not directly connected)**.

25. The network of claim 22, wherein the supplementary header includes a destination tag to identify a target fabric **(Edsall teaches that the EISL header (Figure 4) includes VSAN ID which can be broadly interpreted as a destination tag field for indicating a target fabric such as the associated VSAN (paragraph 0036))**.

29. The network of claim 22, wherein at least one port of the first switching circuit is associated with a first fabric, and wherein at least one port of the second switching circuit is associated with a second, different fabric **(In Cometto's Figure 1, the fabrics can be broadly interpreted as belonging to the different Fibre Channel Switches, wherein Fibre Channel Switch 111 is associated with a first fabric belonging to Fibre Channel Switch 101 and a second fabric belonging to Fibre Channel Switch 113)**.

31. A frame routing method in a system that includes at least two switching circuits **(Cometto's Figure 1)**, *where the method comprises:*

receiving a FC frame at a first switching circuit **(FC frame received by the FC switch in Figure 8)**;

using a destination identifier from the FC frame to determine routing information associated with the FC frame **(Edsall teaches that a received FC frame is used to generate additional routing information (paragraphs 0015-0018), wherein it is inherent that FC frame's destination identifier is used to provide the routing information such as the MPLS labels since a received frame's destination is available only from the packet rather than any additional control frames)**;

augmenting the FC frame with a supplementary header that includes at least some of the routing information **(Cometto's Figure 2 shows the FC frame augmented by the EISL Header 203)**;

sending the augmented FC frame to the second switching circuit **(Cometto's Figure 1 shows the transport of the augmented FC frames between FC switches)**; *and*

routing the augmented FC frame at the second switching circuit in accordance with the routing information in the supplementary header **(EISL Header is used to forward the augmented FC frame at the receiving switching circuit as taught by Edsall (paragraph 0062))**.

32. The method of claim 31, wherein said augmenting includes placing the supplementary header between a start-of-frame field in the FC frame and a frame header field in the FC frame **(Cometto's Figure 2 shows the EISL Header between SOF 201 and FC Header 211)**.

33. The method of claim 31, wherein the routing information in the supplementary header includes a destination tag that identifies a target fabric to which the augmented FC frame is directed **(Edsall teaches that the EISL header (Figure 4) includes VSAN ID which can be**

broadly interpreted as a destination tag field for indicating a target fabric such as the associated VSAN (paragraph 0036)).

38. The method of claim 31, wherein the supplementary header includes a priority flag that indicates whether the second switching circuit should expedite retransmission of the augmented FC frame **(EISL Header includes Priority 410 as taught by Edsall)**.

40. The method of claim 31, wherein the supplementary header field includes a version field that indicates a format of the supplementary header field **(EISL Header includes EISL version field 404 as taught by Edsall)**.

Allowable Subject Matter

5. Claims 14-21, 26-30, 34-37 and 39 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melvin Marcelo whose telephone number is 571-272-3125. The examiner can normally be reached on Mon-Fri 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Firmin Backer can be reached on 571-272-6703. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Melvin Marcelo
Primary Examiner
Art Unit 2616

February 18, 2008